

IN THE CLAIMS:

1. (Cancelled)
2. (currently amended) A magnetic recording medium having a center of rotation and comprising a substrate, a magnetic film layer formed thereon and a protective film layer formed thereon for the protection of said magnetic film layer and composed mainly of carbon, said medium having a CSS area and a data area, said CSS area located closer to said center of rotation than said data area, wherein

a thickness A of the protective film layer in the CSS area is larger than a thickness B of the protective film layer in the data area,

said protective film layer in the CSS area comprises a plurality of films, and

said protective film layer comprises a boundary having a specific steepness in the film thickness between said [[a]] CSS area of thickness A and [[a]] said data area of thickness B, and

~~|R2 - R1| < 5, where R1 is a radial position at the end of the boundary in the direction of thickness decrease which corresponds to 90% of the thickness A and R2 is a radial position at the end of the boundary in the direction of thickness increase which corresponds to 110% of the thickness B.~~

(R2 - R1) < 5 mm where R1 is a radial position measured from said center of rotation to the end of the boundary in the direction of a thickness decrease which corresponds to 90% of the thickness A and R2 is a radial position measured from said center of rotation to the end of the boundary in the direction of a thickness increase which corresponds to 110% of the thickness B.
3. (currently amended) A magnetic recording medium according to claim 2 wherein ~~the ratio of A/B ratio~~ is 1.3 or more.
4. (currently amended) A magnetic recording medium according to claim 2 wherein ~~the protective film in the CSS area comprises a plurality of films,~~

an amorphous carbon layer is present on the magnetic film layer in the CSS area and ~~in~~ the data area, said amorphous carbon layer being composed mainly of carbon, a combination of carbon and nitrogen, or a combination of carbon, nitrogen and hydrogen, and

a diamond-like (DLC) layer is present ~~on an~~ uppermost on said protective film layer in the CSS area, said diamond-like layer being mainly composed of carbon and hydrogen.

5. (currently amended) A magnetic recording medium according to claim 5 wherein the diamond like layer has a hardness of 19Gpa or more 15-19 GPa, and the amorphous layer has a hardness of 15-19Gpa 19 GPa or more.

6. (previously presented) A magnetic disc apparatus using the magnetic recording medium according to claim 2.

7. (previously presented) A magnetic disc apparatus using the magnetic recording medium according to claim 3.

8. (previously presented) A magnetic disc apparatus using the magnetic recording medium according to claim 4.

9. (previously presented) A magnetic disc apparatus using the magnetic recording medium according to claim 5.

10. (currently amended) A magnetic disc apparatus using the magnetic recording medium according to claim [[6]] 21.

11. (currently amended) A magnetic recording medium having a center of rotation and comprising a substrate, a magnetic film layer formed thereon and a protective film layer formed thereon for the protection of said magnetic film layer and composed mainly of

carbon, said medium having a ramp load area and a data area, said ramp load area located closer to said center of rotation than said data area, wherein

a thickness A of the protective film layer in the ramp load area is larger than a thickness B of the protective film layer in the data area,

said protective film layer in the ramp load area comprises a plurality of films, and
said protective film layer comprises a boundary having a specific steepness in the film thickness between said [[a]] ramp load area of thickness A and a and said data area, of thickness B, and

(R2 - R1) < 5 mm where |R2 - R1| < 5, where R1 is a radial position measured from said center of rotation to [[at]] the end of the boundary in the direction of a thickness decrease which corresponds to 90% of the thickness A and R2 is a radial position measured from said center of rotation to [[at]] the end of the boundary in the direction of a thickness increase which corresponds to 110% of the thickness B.

12. (currently amended) A magnetic recording medium according to claim [[12]] 11 wherein the boundary has a rate of thickness change in the radial direction of 1.0 nm/mm or more.

13. (currently amended) A magnetic recording medium according to claim [[12]] 11 wherein A/B ratio is 1.3 or more.

14. (currently amended) A magnetic recording medium according to claim [[12]] 11 wherein

the protective film in the ramp load area comprises a plurality of films,
an amorphous carbon layer is present on the magnetic film layer in the ramp load area and in the data area, said amorphous carbon layer is being composed mainly of carbon, a combination of carbon and nitrogen, or a combination of carbon, nitrogen and hydrogen, and

a diamond-like (DLC) layer is present on an uppermost on the protective film layer in the ramp load area, said diamond-like layer being mainly composed of carbon and hydrogen.

15. (currently amended) A magnetic recording medium according [[t]] to claim 15 wherein the diamond-like layer has a hardness of 19 Gpa or more ~~15-19 GPa.~~, and the amorphous layer has a hardness of 15-19Gpa ~~19 GPa. or more~~.
16. (currently amended) A magnetic disc apparatus using the magnetic recording medium according to claim [[12]] 11.
17. (currently amended) A magnetic disc apparatus using the magnetic recording medium according to claim [[13]] 12.
18. (currently amended) A magnetic disc apparatus using the magnetic recording medium according to claim [[14]] 13.
19. (currently amended) A magnetic disc apparatus using the magnetic recording medium according to claim [[15]] 14.
20. (currently amended) A magnetic disc apparatus using the magnetic recording medium according to claim [[16]] 15.
21. (new) A magnetic recording medium according to claim 2 wherein the boundary has a rate of thickness change in the radial direction of 1.0 nm/mm or more.
22. (new) A magnetic recording medium according to claim 2 wherein a diamond-like (DLC) layer is present on the protective film layer in the CSS area, said diamond-like layer being mainly composed of carbon and hydrogen, and an amorphous carbon layer is present uppermost on the protective film layer in the CSS area and on the protective film layer in the data area, said amorphous carbon layer being composed mainly of carbon, a combination of carbon and nitrogen, or a combination of carbon, nitrogen and hydrogen.

23. (new) A magnetic recording medium according to claim 11 wherein
a diamond-like (DLC) layer is present on the protective film layer in the CSS
area, said diamond-like layer being mainly composed of carbon and hydrogen, and
an amorphous carbon layer is present uppermost on the protective film layer in
the CSS area and on the protective film layer in the data area, said amorphous carbon
layer being composed mainly of carbon, a combination of carbon and nitrogen, or a
combination of carbon, nitrogen and hydrogen.